

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-7. (Canceled)

8. (Currently Amended) A method for manufacturing a thin film transistor, said method comprising:

forming a semiconductor film over an insulating substrate;

forming a first insulating film over the semiconductor film;

forming a first conductive film over the first insulating film;

heat-treating the semiconductor film, the first insulating film, and the first conductive film;

patterning the semiconductor film, the first insulating film, and the first conductive film into island shapes by a photomask after heat-treating the semiconductor film, the first insulating film, and the first conductive film to form an island-shaped semiconductor film, an island-shaped gate insulating film, and a first island-shaped conductive film after the heat-treating step;

forming a second insulating film over the first island-shaped conductive film;

etching the second insulating film anisotropically to form a side wall covering side faces of the island-shaped semiconductor film and the island-shaped gate insulating film in a self-aligned manner;

forming a second conductive film over the island-shaped gate insulating film after forming the side wall; and

patterning the first island-shaped conductive film and the second conductive film to form a gate electrode.

9. (Previously Presented) A method for manufacturing a thin film transistor, said method comprising:

- forming a semiconductor film over an insulating substrate;
- forming an insulating film over the semiconductor film;
- heat-treating the semiconductor film and the insulating film;
- patterning the semiconductor film and the insulating film into island shapes with the use of one resist mask after heat-treating the semiconductor film and the insulating film to form an island-shaped semiconductor film and an island-shaped gate insulating film;
- insulating a side face of the semiconductor film by adding oxygen or nitrogen to a side face of the island-shaped semiconductor film without removing the resist mask;
- forming a conductive film over the island-shaped gate insulating film; and
- patterning the conductive film to form a gate electrode.

10. (Previously Presented) A method for manufacturing a thin film transistor, said method comprising:

- forming a semiconductor film over an insulating substrate;
- forming a first insulating film over the semiconductor film;
- heat-treating the semiconductor film and the first insulating film;
- patterning the semiconductor film and the first insulating film into island shapes by a photomask after heat-treating the semiconductor film and the first insulating film to form an island-shaped semiconductor film and an island-shaped gate insulating film;
- forming a second insulating film over the island-shaped gate insulating film;
- patterning the second insulating film to cover edge portions of the island-shaped semiconductor film and the island-shaped gate insulating film and only a peripheral portion of a top face of the island-shaped gate insulating film;
- forming a conductive film over the island-shaped gate insulating film; and

patterning the conductive film to form a gate electrode.

11. (Previously Presented) A method for manufacturing a thin film transistor, said method comprising:

- forming a semiconductor film over an insulating substrate;

- forming a first insulating film over the semiconductor film;

- forming a first conductive film over the first insulating film;

- heat-treating the semiconductor film, the first insulating film, and the first conductive film,

- patterning the semiconductor film, the first insulating film, and the first conductive film into island shapes by a photomask after heat-treating the semiconductor film, the first insulating film, and the first conductive film to form an island-shaped semiconductor film, an island-shaped gate insulating film, and a first island-shaped conductive film;

- forming a second insulating film over the first island-shaped conductive film;

- etching the second insulating film anisotropically to form a side wall covering side faces of the island-shaped semiconductor film, the island-shaped gate insulating film, and the first island-shaped conductive film in a self-aligned manner;

- forming a second conductive film over the first island-shaped conductive film after forming the side wall; and

- patterning the first island-shaped conductive film and the second conductive film to form a gate electrode.

12. (Previously Presented) A method for manufacturing a thin film transistor, said method comprising:

- forming a semiconductor film over an insulating substrate;

- forming an insulating film over the semiconductor film;

- forming a first conductive film over the insulating film;

heat-treating the semiconductor film, the insulating film, and the first conductive film;

patterning the semiconductor film, the insulating film, and the first conductive film into island shapes by a resist mask after heat-treating the semiconductor film, the insulating film, and the first conductive film to form an island-shaped semiconductor film, an island-shaped gate insulating film, and a first island-shaped conductive film;

adding oxygen or nitrogen to a side face of the island-shaped semiconductor film without removing the resist mask to insulate a side face of the semiconductor film;

forming a second conductive film over the first island-shaped conductive film; and

patterning the first island-shaped conductive film and the second conductive film to form a gate electrode.

13. (Previously Presented) A method for manufacturing a thin film transistor, said method comprising:

forming a semiconductor film over an insulating substrate;

forming a first insulating film over the semiconductor film;

forming a first conductive film over the insulating film;

heat-treating the semiconductor film, the first insulating film, and the first conductive film;

patterning the semiconductor film, the first insulating film, and the first conductive film into island shapes by a photomask after heat-treating the semiconductor film, the first insulating film, and the first conductive film to form an island-shaped semiconductor film, an island-shaped gate insulating film, and a first island-shaped conductive film;

forming a second insulating film over the first island-shaped conductive film;

patterning the second insulating film to cover edge portions of the island-shaped semiconductor film, the island-shaped gate insulating film, and the first island-shaped conductive film and only a peripheral portion of a top face of the first island-shaped conductive film;

forming a second conductive film over the island-shaped gate insulating film; and forming a gate electrode by patterning the first conductive film and the second conductive film.

14. (Previously Presented) A method for manufacturing a thin film transistor according to any one of claims 8, 10, 11 and 13, wherein heat-treating the semiconductor film and the first insulating film is done at a temperature of from 600° C to 800° C.

15. (Previously Presented) A method for manufacturing a thin film transistor according to claim 9 or 12, wherein heat-treating the semiconductor film and the insulating film is done at a temperature of from 600° C to 800° C.

16. (Previously Presented) A method for manufacturing a thin film transistor according to claim 14, wherein a strain point of the insulating substrate is equal to or lower than 600° C.

17. (Previously Presented) A method for manufacturing a thin film transistor according to claim 15, wherein a strain point of the insulating substrate is equal to or lower than 600 °C.

18. (Previously Presented) A method for manufacturing a thin film transistor according to claim 9, wherein the gate electrode is led outside the island-shaped semiconductor film.

19. (Previously Presented) A method for manufacturing a thin film transistor according to claim 10, wherein the gate electrode is led outside the island-shaped semiconductor film.

20. (Previously Presented) A method for manufacturing a thin film transistor according to claim 11, wherein the gate electrode is led outside the island-shaped semiconductor film.

21. (Previously Presented) A method for manufacturing a thin film transistor according to claim 12, wherein the gate electrode is led outside the island-shaped semiconductor film.

22. (Previously Presented) A method for manufacturing a thin film transistor according to claim 13, wherein the gate electrode is led outside the island-shaped semiconductor film.

23. (Canceled)

24. (Currently Amended) A method for manufacturing a thin film transistor, said method comprising:

- forming a semiconductor film over an insulating substrate;
- forming a first insulating film over the semiconductor film;
- heat-treating the semiconductor film and the first insulating film;
- patterning the semiconductor film and the first insulating film into island shapes by a photomask after heat-treating the semiconductor film and the first insulating film to form an island-shaped semiconductor film and an island-shaped gate insulating film;
- forming a second insulating film over the island-shaped gate insulating film;
- etching the second insulating film anisotropically to form a side wall covering side faces of the island-shaped semiconductor film and the island-shaped gate insulating film in a self-aligned manner;

forming a conductive film over the island-shaped gate insulating film after forming the side wall; and

etching the side wall, the island-shaped gate insulating film, and the conductive film to form a gate electrode.

25. (Previously Presented) A method for manufacturing a thin film transistor according to claim 24, wherein heat-treating the semiconductor film and the first insulating film is done at a temperature of from 600° C to 800° C.

26. (Previously Presented) A method for manufacturing a thin film transistor according to claim 25, wherein a strain point of the insulating substrate is equal to or lower than 600° C.

27. (New) A method for manufacturing a thin film transistor according to claim 8, wherein the heat-treating step is performed by RTA treatment.

28. (New) A method for manufacturing a thin film transistor according to claim 9, wherein the heat-treating step is performed by RTA treatment.

29. (New) A method for manufacturing a thin film transistor according to claim 10, wherein the heat-treating step is performed by RTA treatment.

30. (New) A method for manufacturing a thin film transistor according to claim 11, wherein the heat-treating step is performed by RTA treatment.

31. (New) A method for manufacturing a thin film transistor according to claim 12, wherein the heat-treating step is performed by RTA treatment.

32. (New) A method for manufacturing a thin film transistor according to claim 13, wherein the heat-treating step is performed by RTA treatment.

33. (New) A method for manufacturing a thin film transistor according to claim 24, wherein the heat-treating step is performed by RTA treatment.